

## **Discovering IPM: An Inquiry Approach to Learning Integrated Pest Management**

### **Curriculum Introduction**

Integrated Pest Management (IPM) is a decision-making process that uses applied ecology, knowledge-based applications, and a compatible integration of tactics to manage pest populations below economic injury levels. Using this curriculum, teachers will be able to teach science through meaningful and useful methods. Discovering IPM offers a step-by-step approach to discover and learn about science in “everyday” situations. It teaches IPM through inquiry. Students discover IPM, by engaging in the steps of the IPM process through the activities outlined in each lesson. In the last lesson of the curriculum students define the concept of IPM based upon what they have discovered.

This curriculum consists of preliminary ecology lessons designed to help the students become more familiar with the some of the interactions of an ecological system. IPM relies on ecological relationships and concepts for the integration of management tactics. Therefore students must have a general concept of what ecology is and what are the relationships that exist with in an ecosystem, to understand and utilize integrated pest management.

The subsequent lessons lead the students through the steps of IPM as an informed knowledge-based decision-making process. Students discover the pest problem, they identify and learn more about the biology of the pest, and they develop a monitoring program in which they determine population densities through scouting. Based on gathered information they learn about various management tactics and make informed decisions about control. Lastly they define IPM. The lessons of the curriculum occur in environments in which students are familiar, and for which teachers have resources, including home and school environments. These settings are the basis for urban IPM.

Each IPM lesson represents a step in the process of IPM consists of an introduction. The introduction explains how the current lesson relates to the previous and its importance in an IPM program. Also provided are appropriate South Carolina science standards, credible Internet resources, list of materials, approximate duration of time, objectives, and vocabulary to be learned by the student throughout the activities outlined in each lesson. Following each lesson are appropriate worksheets, game cards, and assessments. Background information sheets related to the lesson for teacher reference are at the end of each lesson.

Following the home and school lessons (urban IPM) is a module section. The module section consists of four modules and depending on the availability of teacher resources, these modules may be used in several ways. The modules may be used to teach IPM separately from the urban IPM lessons, using the urban IPM lessons as a guide. The modules may be used to reinforce IPM as separate lessons following teaching of the home and school lessons. Or the modules may be incorporated with the urban IPM lessons as separate supporting activities.

Discovering IPM was written to accommodate teacher resource availability, flexibility, and to inspire creativity. Depending on student’s age, teachers may choose to modify or eliminate activities, or to proceed with enrichment ideas. Ideas and suggestions for changing lessons to suit age levels are offered where appropriate in the lessons.